## Amendments to the Claims

1-12. (Cancelled).

13. (New) An optical communication network component comprising:

an optical information signal source to provide an optical information signal;

an output port to output the optical information signal over a first optical transmission fiber;

a light sensor;

an optical circulator to transmit the optical information signal from the optical information signal source to the output port, and to transmit reflected light from the output port to the light sensor; and

a first transmitter laser configured to associate a time marker with the optical information signal provided by the optical information signal source;

an evaluating circuit coupled to the light sensor to detect a time delay between the time marker and a corresponding time marker associated with the received light arriving at the light sensor.

14. (New) The component of claim 13 further comprising a second transmitter laser to transmit a value representative of the detected time delay over a second optical transmission fiber.

15. (New) The component of claim 14 wherein the optical information signal comprises a frequency-division multiplex communication signal, and wherein the light sensor is configured to selectively sense one or more frequency components of the frequency-division multiplex communication signal.

16. (New) The component of claim 15 wherein the one or more frequency components selectively sensed by the light sensor comprises a filling channel.

17. (New) The component of claim 15 wherein the one or more frequency components selectively sensed by the light sensor comprises an OSC channel.

18. (New) The component of claim 14 further comprising:

an input port connected to the second optical transmission fiber;

an optical switch; and

a receiver selectively connected to the second optical transmission fiber or to the optical circulator.

19. (New) The component of claim 17 wherein the receiver comprises an OSC receiver.

20. (New) The component of claim 17 wherein the optical switch is controlled based on an intensity of the light reflected from the output port to the optical circulator.

21. (New) The component of claim 20 wherein the optical information signal source, the first transmitter laser, and the evaluating circuit are configured to reduce a power of the optical information signal at the output port if the intensity of the light reflected from the output port to the optical circulator exceeds a threshold.

22. (New) The component of claim 21 wherein the evaluating circuit is configured to determine the time delay responsive to reducing the power of the optical information signal.

23. (New) The component of claim 13 further comprising a tap disposed between the optical circulator and the output port to monitor the optical information signal provided by the optical information signal source.

24. (New) An optical communication network comprising:

a bi-directional optical fiber; and

a first optical component connected at a first end of the bi-directional optical fiber and a second optical component connected at a second end of the bi-directional optical fiber, each optical component comprising:

an optical information signal source to provide an optical information signal;

an output port to output the optical information signal over the bi-directional optical fiber;

a light sensor;

an optical circulator to transmit the optical information signal from the optical information signal source to the output port, and to transmit reflected light from the output port to the light sensor;

a first transmitter laser configured to associate a time marker with the optical information signal provided by the optical information signal source; and

an evaluating circuit coupled to the light sensor to detect a time delay between the time marker and a corresponding time marker associated with the received light arriving at the light sensor.

25. (New) The optical communication network of claim 24 wherein the first optical component comprises an intermediate amplifier, and the second optical component comprises a network node.

26. (New) The optical communication network of claim 24 wherein the first optical component further comprises a first switching fabric and a de-multiplexer, and the second optical component further comprises a second switching fabric and a multiplexer.

27. (New) The optical communication network of claim 26 wherein the first switching fabric is disposed between the optical information signal source and the de-multiplexer in the first optical component, and the second switching fabric is disposed between the optical information signal source and the multiplexer in the second optical component.

28. (New) The optical communication network of claim 24 wherein each of the first and second optical components are configured to independently detect a defect in the bi-directional optical fiber based on the detected time delay.

29. (New) The optical communication network of claim of claim 28 wherein each of the first and second optical components are further configured to measure a distance to the defect in the bi-directional optical fiber to determine a position of the defect.